

Davis, Graeme; Akroyd, Philip; Pearl, David; Sainsbury, Tristram

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Recent personal income tax progressivity trends in Australia

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RECENT PERSONAL INCOME TAX PROGRESSIVITY TRENDS IN AUSTRALIA

Graeme Davis, Philip Akroyd, David Pearl and Tristram Sainsbury¹

Treasury Working Paper²

2019-05

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- ¹ Graeme Davis, David Pearl and Philip Akroyd are from the Tax Framework Division and Tristram Sainsbury is from the Individuals and Indirect Tax Division, The Treasury, Langton Crescent, Parkes ACT 2600, Australia. We thank Maryanne Mrakovcic, Marisa Purvis-Smith and Robert Raether for their valuable feedback on an early draft of this paper, and James Stevens and Alexander Sibelle for research assistance.
 - ² The views expressed in this paper are those of the authors and do not necessarily reflect those of The Australian Treasury or the Australian Government.

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Media Unit
The Treasury
Langton Crescent
Parkes ACT 2600
Email: medialiaison@treasury.gov.au

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Graeme Davis, Philip Akroyd, David Pearl and Tristram Sainsbury
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ABSTRACT

Tax progressivity is not a precise science. Judgements around the level of tax progressivity need to balance the objective of fairness against other objectives – such as efficiency, simplicity and sustainability – that underpin the design of tax systems. Further, people’s perceptions of fairness depend on a range of factors, including their position in society and the information available to assess their position relative to others. Our analysis of average personal income tax rates, and the distribution of personal income tax incidence, over recent decades suggests that Australia’s personal income tax system became more progressive over the 22 years between 1994-95 and 2015-16. Choices by successive Australian governments have altered marginal personal income tax rates and extended tax thresholds in ways that have reduced the income tax incidence on lower income earners, and increased the income tax incidence on higher income earners. This has also seen an increase in income tax concentration, whereby a narrower proportion of high income earners pay a larger share of total Australian personal income taxes. In publishing these findings, we seek to inform the trade-offs arising from the progressive personal income tax regime and its role within the broader Australian tax system. However, care needs to be taken in evaluating these findings. Our analysis does not seek to evaluate the fairness (real or perceived) of Australia’s personal income tax.

Graeme Davis, Philip Akroyd and David Pearl
Tax Framework Division
Revenue Group
The Treasury
Langton Crescent
Parkes ACT 2600

Tristram Sainsbury
Individuals and Indirect Tax Division
Revenue Group
The Treasury
Langton Crescent
Parkes ACT 2600

1. INTRODUCTION

A progressive personal income tax regime has been a longstanding feature of Australia's tax (and transfer) system. This paper provides a framework for considering the progressivity of our personal income tax system and the implicit policy trade-offs arising from such a system. We also examine recent trends in income tax progressivity and some of the factors that may be influencing public perceptions. We do not seek to present a view on whether these policy outcomes are fair.

The paper is structured in two main sections. First, we ask what is meant by tax progressivity. We discuss some of the complexities that make progressivity a challenging concept to pin down. We also explore some of the policy trade-offs between tax progressivity and other tax system objectives. Or, to put it another way, we explore what is being given up by pursuing a progressive personal income tax system. Second, we examine Australia's personal income tax progressivity trends for the 22 year period from 1994-95 to 2015-16,³ in terms of average and marginal tax rates, the changing distribution of personal income tax paid, and the concentration of taxes. We then provide some concluding observations.

2. WHAT IS PROGRESSIVITY?

A tax can apply to a taxpaying population in one of three ways:

- it is progressive if the average rate of tax increases as the base (for example, income or expenditure) increases;
- it is proportional if the average rate of tax is constant; and
- it is regressive if the average tax rate decreases as the base increases.

Charts 1a and 1b depict a progressive tax, a proportional tax and a regressive tax on an income tax base, measured by average tax rate and tax paid. Despite the average tax rate curves (Chart 1a) having a fundamentally different character, with only one being progressive, all three deliver an outcome where tax paid increases as the base increases (Chart 1b).

³ Why the period from 1994-95 to 2015-16? Inevitably the selection of two points of time requires a degree of judgement. At the time we started this research, these dates provided the broadest, relatively accessible data set for analysis. We note that the Australian Taxation Office has since released a more recent set of taxation statistics for the 2016-17 income year; our preliminary analysis of the additional data suggests it is not inconsistent with our broader findings.

Chart 1A

A stylised proportional, progressive and regressive tax, measured by average tax rate

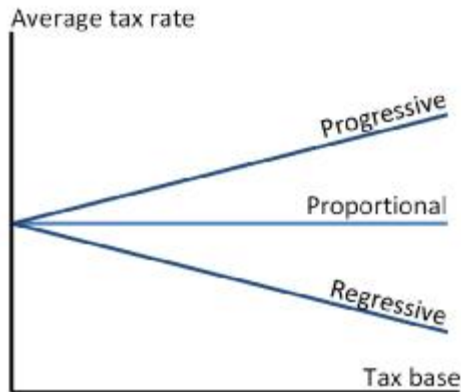
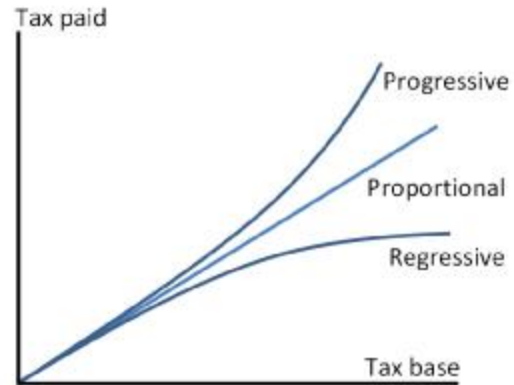


Chart 1B

A stylised proportional, progressive and regressive tax, measured by tax paid



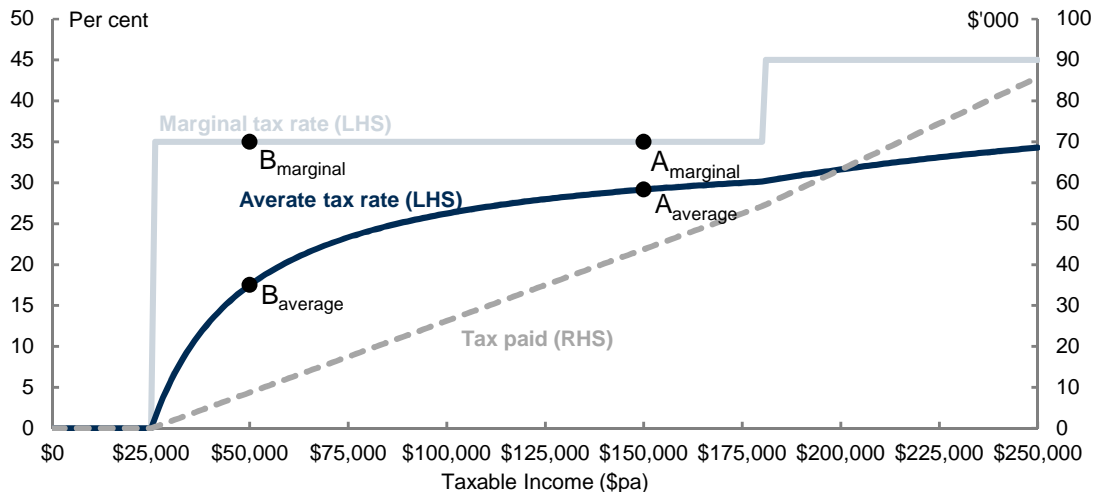
Source: Author.

When assessing the progressivity of a tax, it is important to understand what is (and is not) in the tax base. For this paper we will use the general basis for calculating personal income tax liabilities – ‘taxable income’ – on an individual taxpayer’s annual cash flow. This definition includes the primary forms of labour income, typically salary and wages, as well as net capital gains (noting that there are a range of discounts and exemptions for some capital gains), interest, dividends, royalties and rental income. The definition also excludes the earnings of some individuals. For example, if an individual indirectly earns and retains income through a superannuation fund, corporate entity or trust, this income will not be observed as part of that individual’s taxable income in a particular year.

A tax system constructed entirely of flat marginal rate tiers – such as Australia’s personal income tax system – will still be progressive provided the average tax rate curve is upwards sloping. This means that two individuals with different levels of taxable income may face the same *marginal* tax rate, while the individual with a higher income will face a higher *average* tax rate⁴. To illustrate, take the simplified, stylised progressive personal tax rate scales proposed in the *Review of Australia’s Future Tax System* (Chart 2). Person A with taxable income of \$150,000 faces a marginal tax rate of 35 per cent and pays \$43,750 in tax, at an average tax rate of 29.2 per cent. Person B with taxable income of \$50,000 also faces the same 35 per cent marginal tax rate but pays \$8,750 in tax at an average tax rate of 17.5 per cent. Person A earns three times as much as person B, but pays about five times as much tax, and contributes a much greater share of their income as tax.

4 The average tax rate determines an individual’s total return from earning income, while the marginal tax rate determines the return from earning additional income.

Chart 2. Indicative personal income tax rates scale



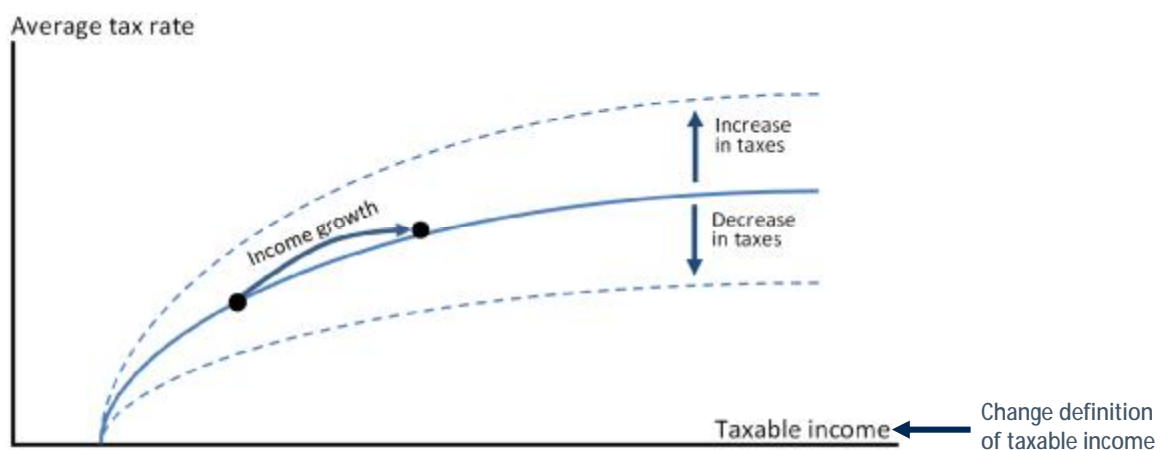
Note: See appendix for tax paid, marginal tax rates and average tax rates by taxable income
 Source: Author calculations, Review of Australia's Future Tax System.

There are two factors that influence the way the average tax rate curve affects a population.

The first is policy decisions, which directly change the *shape* of the average tax curve and what is captured as part of the tax base. Policy decisions include governments altering headline marginal rates and thresholds to increase the average tax rate slope (become 'relatively more progressive') or flatten its slope (become 'relatively less progressive'). They also include decisions to broaden or narrow the income tax base through exemptions, offsets and deductions. Such policy decisions may affect taxpayers at the bottom, middle and top of the income distribution in different ways.

The second factor is nominal income growth, which pushes individual taxpayers *along* the average tax rate curve. People's pre-tax incomes grow independently of tax policy changes. Bracket creep, which occurs when individuals pay a higher proportion of their income as tax due to income growth, then becomes an 'automatic' feature of a system that contains a fixed (non-indexed) progressive tax schedule.⁵ The effect of policy decisions and income growth is illustrated in Chart 3.

Chart 3. Stylised effect of income growth and policy change on average tax



Source: Author calculations.

5 Bracket creep is not simply due to some taxpayers 'moving' into higher tax brackets. Those in the same tax bracket are affected as well, as a higher proportion of their incomes are taxed at their highest marginal rate.

Evaluations of progressivity hinge on comparisons of different points along the distribution. These comparisons are based on perceptions of where 'you' are (the tax rate that applies to your income) relative to someone else (the tax rate that applies to their income). Additional layers of difficulty are added when comparing across different tax bases, for example, both income and superannuation, or between two different points in time. Drawing meaning from such comparisons moves beyond technical definitions, and into exploring the rationale behind income taxation.

Why progressive income taxation?

Tax progressivity is not a precise science. There is no ideal or 'optimal' analytical level of tax progressivity. Instead, the 'right' degree of tax progressivity is a question ultimately determined through the political process. It hinges on judgements that are based on societal preferences for equity or fairness (which may change over time) relative to other policy objectives.

Notions of fairness are subjective, nebulous and contested. They are based on morals and ethics, with arguments drawn from a number of competing theories and philosophies of distributive justice.⁶ Given there is no single viewpoint on what is fair, and judging fairness frequently relies upon value judgements, we do not intend to place a particular emphasis on any of these philosophies. All three taxes shown in Chart 1a, for example, could be argued as fair by particular individuals and in certain contexts.⁷

However, two fairness principles are often cited as policy rationales for progressive income taxation: 'the benefit principle', which can be generalised as taxation being 'the price of engaging in civilised society';⁸ and 'the capacity to pay principle', which can be generalised as an individual's ability to pay tax increases as his or her income (or assets) increase. These rationales behind progressive income taxation have attracted widespread political and community support within Australia over an extended period of time.⁹

As part of the capacity to pay principle, the 1975 Asprey Review discussed two key concepts of vertical and horizontal equity. Specifically:

As a quality of a tax or a tax system everyone demands fairness, or equity (the terms will be used interchangeably). But, in tax matters as in law and ethics, it is an ideal exceedingly difficult to define and harder still to measure. It is customary to distinguish the two dimensions of 'horizontal' and 'vertical' equity: the notions that it is fair that persons in the same situation should be equally treated, and those in different situations [should be] differently treated, with those more favourably placed being required to pay more.¹⁰ [emphasis added]

6 For example equality of opportunity, libertarianism, utilitarianism, Rawlsianism, and the capabilities approach would all produce different definitions of fairness.

7 For example, it could be argued that regressive taxes, such as tobacco taxes, are fair in terms of their broader social impact and the higher absolute dollar tax incidence on those able to spend more on these forms of consumption.

8 The benefit principle is not a new concept. See, for example, Adam Smith in *The Wealth of Nations*, Volume V, paragraph 2.25: 'The subjects of every state ought to contribute towards the support of the government, as nearly as possible, in proportion to their respective abilities; that is, in proportion to the revenue which they respectively enjoy under the protection of the state. The expense of government to the individuals of a great nation is like the expense of management to the joint tenants of a great estate, who are all obliged to contribute in proportion to their respective interests in the estate. In the observation or neglect of this maxim consists what is called the equality or inequality of taxation.'

9 A curious aside is that while personal income taxes raise more than 50 per cent of Commonwealth revenue, there is nothing inherent to the annual personal income taxation system that requires it to be the primary vehicle to raise revenue and to approximate capacity to pay. In fact, income taxation only became a dominant feature of Australia's tax mix in the aftermath of the two World Wars. Prior to this, attempts to achieve progressivity included taxing land and inheritance.

10 Asprey, K, and Parsons, R, 1975, Commonwealth Taxation Review Committee, Full Report January 31 1975. Chapter 3, para 7.

The concept of vertical equity, in particular, may help explain the presence of progressive income tax rates in Australia. Incomes are not evenly distributed across the Australian population, and these differences result in different capacities to pay income tax. A proportional income tax levied at a constant percentage rate (without exemptions or arbitrage opportunities that undermine horizontal equity) would provide for a proportionate obligation across all individual taxpayers, with those on higher incomes paying higher amounts of tax. However, progressive income taxation, where those on higher incomes pay higher average rates of income tax than those on lower incomes, has come to be seen as a key means for satisfying demands for vertical equity.

Progressivity requires trade-offs

In considering 'how much' progressivity we might want in a tax system, we require two sets of judgements.

First, progressivity must be balanced against other desirable features of the tax system (with objectives typically categorised into equity, efficiency, simplicity, and sustainability). In particular, progressivity can adversely affect the efficiency of the system. Escalating marginal effective tax rates can distort individual decisions to work, save and invest. This is irrespective of whether one is a lower or higher income earner. In general, systems that are more steeply progressive — that is, with higher marginal tax rates and a greater distance between marginal and average tax rate curves — will generate greater inefficiencies.

Second, and perhaps less widely recognised, the vertical equity objectives of progressivity must be balanced against other conceptions of fairness. In particular, there is the potential for tension between vertical equity and horizontal equity.¹¹ Australia's tax system is highly complex with different income tax rates applying to companies, individuals, and superannuation funds. This means that two individuals in the same economic position can achieve markedly different tax outcomes, at particular points in their life course (and across generations), depending on their respective abilities to more flexibly realise income.

The horizontal equity principle – that those in the same situation should be treated equally – is relevant irrespective of the level of income earned. That said, the incentives to engage in tax-effective arrangements that undermine horizontal equity increase as a taxpayer's marginal personal tax rate increases. The reason is that differences between the tax rates of the progressive personal income tax schedule and other forms of income become more pronounced for those with higher levels of income. This creates a stronger return from seeking out lower tax rates for a marginal dollar. Achieving higher vertical equity, such as through higher tax rates or a more steeply increasing progressive tax rate schedule, therefore, carries the potential to prompt behavior that both undermines vertical equity *and* compromises horizontal equity.

These arguments highlight that there is no single 'correct' reform solution in balancing the economic efficiencies of a particular tax with different conceptions of fairness. Conceptions of fairness will also extend to the nature of what should or should not be included in the tax base, and how well base inclusions and exclusions reflect one's capacity to pay tax. In any diverse community, support will be expressed for a variety of possible approaches. In practice, progressive income tax systems attempt to

11 There is also a dynamic interpretation of horizontal equity, expressed in the idea that people should not be penalised by the tax system for seeking to better their lives. This implies that people should not face higher marginal tax rates when their incomes increase. If two people were to start with the same chances in life, the idea is that neither person should be penalised, in the form of a higher marginal tax rate, if they decide to raise their income (such as by working harder or investing in their education and skills).

balance the different tax system objectives and notions of fairness when calibrating a particular mix of income tax rates and thresholds.

It is also instructive that the question of how to construct a progressive personal (and broader) tax system has been considered repeatedly by major Australian tax reviews. The 1975 Asprey Review dealt with this in some detail, devoting an entire chapter to it, in recognition that progressivity was 'perhaps the most difficult of all basic issues in taxation policy'. When it came to determining the implication of distributional fairness for tax rates, the Asprey Committee concluded:

In the Committee's judgment there will be almost universal agreement that, overall, taxation should be progressive at the upper end of the scales of income and wealth, and that at the other extreme poverty and threats of poverty reflecting situations of special need should be relieved of taxation or assisted by social service payments. But it is convinced that there will nevertheless long remain debate and disagreement about the exact extent to which it is economically safe, administratively feasible, and socially justifiable to push taxation at these higher levels and to assist poverty and need. At the same time and quite consistently with this recognition of sharp disagreements about the extremes, the Committee's belief is that over the middle band of income and wealth, the band in which the great majority of them spend their lives, most Australians will accept as fair and convenient an approximately proportional taxation system. When the estimates are made as best they can, that appears to be the quantitative outcome of the present system, and the Committee sees no reason to depart from it.¹²

This characterisation of community views influenced the reform blueprint the Asprey Committee proposed, which included a tax mix switch from personal income to consumption taxation and a significant simplification of the personal income tax rate scale (which had, as its starting point, a system with several more tiers than today's structure).

More recently, the 2010 *Review of Australia's Future Tax System* (AFTS) considered the same issues from a more explicitly 'economic' perspective. It explained that:

Progressivity can be achieved either through a flat [proportional] tax rate with a tax-free threshold, a rising personal tax rates scale, or a combination of both. Progressivity does not necessarily require increasing effective marginal tax rates.¹³

It also cautioned that progressive tax rates applying to multiple different tax bases have the potential to lead to complexity. As such, the AFTS Review suggested that progressivity should be restricted to the personal income tax and transfer system:

Though progressivity in the system is important, it is necessary that the tax system remains simple and consistent. Having too many policies aimed at increasing progressivity can make the tax system complex and provide opportunities for tax planning.¹⁴

After considering the trade-offs between the degree of progressivity and both simplicity and the 'incentives to invest in education, training and skills and to engage in entrepreneurial activity', the Review concluded:

The personal income tax system should continue to be progressive, [but] the centrepiece of the system should be a high tax-free threshold with a constant marginal rate for most people.¹⁵

12 Asprey, K, and Parsons, R, 1975, Commonwealth Taxation Review Committee, Full Report January 31 1975. Chapter 4, paras 37 and 38.

13 Commonwealth of Australia, 2009, Review of Australia's Future Tax System, Final Report.

14 Ibid.

15 Ibid.

3. THE AUSTRALIAN EXPERIENCE BETWEEN 1994-95 AND 2015-16

Implemented tax changes have made the personal income tax system more progressive

Australia's personal income tax policy framework is based on nominal marginal tax rates and thresholds that are not indexed over time. This means that growth in taxable income will result in a higher tax incidence across the entire taxpaying population. Over a very long period of time, bracket creep pushes a progressive system closer to a proportional system. Moreover, people tend to judge changes in their expected tax outcomes against their current outcomes and, as a general rule, would prefer not to face a higher tax incidence themselves or become worse off compared with those on higher incomes. Given this, it is not surprising that governments face periodic pressure to relieve rising tax incidence created by bracket creep through tax cuts.

In recent decades policy changes by successive Australian governments, taken together, have had the effect of redistributing personal tax incidence away from lower income earners and towards higher income earners. In doing so this has increased the progressivity of Australia's personal income tax system. Below we look at these changes both in terms of changes to personal income tax rates, thresholds and the distribution of tax incidence, and in terms of changes to tax concentration based on average tax rates.¹⁶

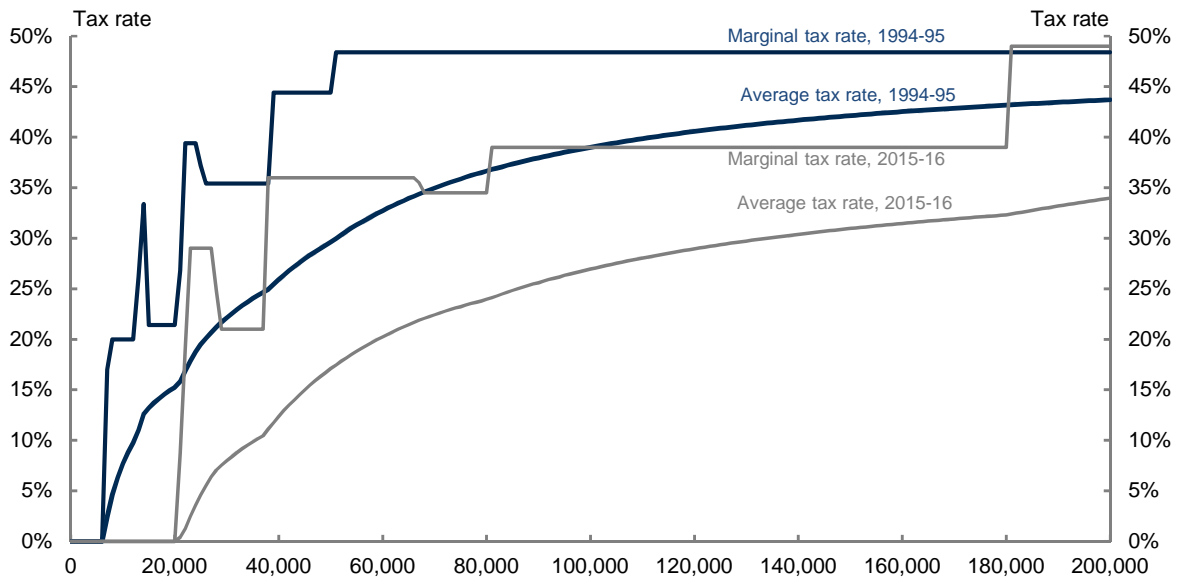
Changes in taxable incomes and average tax rates between 1994-95 and 2015-16

As previously noted, changes to an individual's personal income tax incidence reflect two main factors. Policy decisions to adjust marginal tax rates and thresholds change the *shape* of the average tax rate schedule, and policy decisions that affect the income tax *base* determine which forms of income are subject to personal income taxes. Rising taxable incomes move individual taxpayers *along* the average tax rate curve.

Charts 4 and 5 illustrate the change in marginal and average tax rates in Australia between 1994-95 and 2015-16. Chart 4 shows that Australian governments have reduced marginal personal tax rates and increased personal tax thresholds during this time, leading to lower average tax rate curve applying to all personal income taxpayers. Three sets of policy decisions stand out. The first is the assistance delivered through reduced personal income tax rates as part of the 'tax mix switch' associated with the introduction of the goods and services tax (GST) in 2000. The second is the cuts to marginal personal income tax rates and extensions to personal income tax thresholds between 2003-04 and 2010-11. The third is the tripling of the tax-free threshold to \$18,200 in 2012, combined with a reduction in the low income tax offset.

¹⁶ As previously noted, tax progressivity is not an exact science. It is important to recognise that there are other ways of trying to provide a sense of progressivity than those presented here. Among the range of approaches used in academic and public discourse are: simply observing changes in marginal and average tax rates (for example, Janda 2018); calculating tax wedges (OECD 2018); measuring the ratio of change in average tax rate to change in income (Pigou 1928); analysing the progression of tax rates across a distribution (for example, Peter, Buttrick and Duncan 2010); generating a single population-wide estimate (for example, Kakwani 1977); and measuring shares of tax paid by groups of the taxpaying population (for example, OECD, as cited in Greg Mankiw's blog (2011).

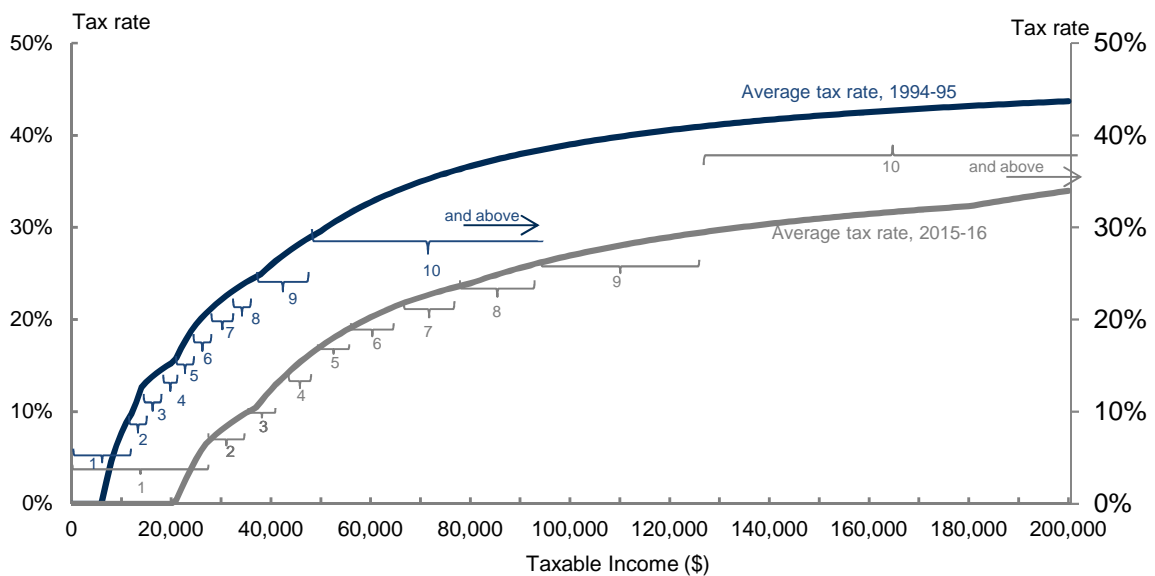
Chart 4. Marginal and average personal income tax rates in Australia, 1994-95 and 2015-16.



Notes: Marginal and average tax rate estimates include the impact of the Medicare levy, Low Income Tax Offset, and Temporary Budget Repair Levy. Source: Australian Taxation Statistics.

While there is some difficulty in interpreting changes in deciles (see Box 1), it appears that there has been significant growth in taxable incomes (Chart 5). Specifically, taxable incomes have more than doubled for all deciles, with the greatest gains experienced by the top 10 per cent, where taxable incomes have tripled (also see Table 1). As an illustration, an individual earning just over \$50,000 in 1994-95 would be in the top (10th) decile, but in 2015-16 an individual earning \$50,000 would be in the 5th decile. By contrast, the top decile in 2015-16 would be filled by individuals earning approximately \$126,000 and above. The slowest relative taxable income gains have been experienced by the ‘middle’ 4th to 7th deciles, which equates to those with an income range between approximately \$42,000 and \$77,000 in 2015-16.

Chart 5. Average personal income tax rates and decile ranges in Australia, 1994-95 and 2015-16.



Note: Deciles are calculated by dividing the personal taxpayer population into ten groups with the same population size. In 1994-95, a decile corresponded to approximately 800,000 individuals and in 2015-16, a decile represented approximately 1,000,000 individual taxpayers. Average tax rate estimates include the Low income tax offset, Medicare levy and Temporary Budget repair levy. Source: Australian Taxation Statistics, author calculations.

Box 1: Challenges in interpreting changes in deciles over time

When interpreting changes in deciles, it is important to note that the *composition* of each decile varies over time. As a general observation, Australia's working population moves across income deciles (both upwards and downwards) throughout their lives as their incomes change. This is true of both the size of deciles and constituent membership of each decile, and means that the membership of each decile is not strictly comparable between disparate time periods. In addition, the population sizes for each decile have become larger due to population growth: in 1994-95, the decile brackets corresponded to approximately 800,000 taxpayers, while in 2015-16 deciles correspond to approximately 1 million taxpayers. In light of the shifting decile composition, it is not possible to conclude from 'snapshot in time' analysis that, for example, the taxable incomes of the top ten per cent of the population have 'pulled away' from everyone else.

A couple of additional caveats apply to the two extremes of the taxable income distribution. First, the tripling of tax-free threshold in 2012-13 (to \$18,200 for individuals and approximately \$32,000 for single recipients of the Seniors and Pensioners Tax Offset) means that a larger number of low-income earners no longer needed to lodge a tax return as they do not pay income tax – that is, they do not form part of the taxpayer population. There is little to no data from 2012-13 onwards available for these taxpayers, and this influences the income range captured within the two bottom income deciles. Second, the composition of the top decile is influenced by the statistical anomalies that come from using an unbounded income range. Increased and more effective (and often high profile) compliance work by the ATO focussed on top income earners (for example, Project Wickenby) is likely to have also influenced the composition of the top decile.

Examining personal income tax trends on a lifetime basis, and quantifying the respective influence of the factors identified above, are valuable avenues for future work.

Table 1. Income range, average taxable income and average tax rate of deciles, 1994-95 and 2015-16.

| Decile | 1994-95 | | | 2015-16 | | | Ratio of average taxable income in 2015-16 compared to 1994-95 | Change in average tax rate, 1994-95 to 2015-16 (ppt) |
|--------|--------------------|------------------------|------------------|---------------------|------------------------|------------------|--|--|
| | Income Range | Average taxable income | Average tax rate | Income range | Average taxable income | Average tax rate | | |
| 1 | \$10,731 or less | \$8,422 | 5.3% | \$27,872 or less | \$23,377 | 4.0% | 2.78 | -1.3% |
| 2 | \$10,731-\$14,331 | \$12,524 | 8.7% | \$27,873-\$35,182 | \$31,629 | 7.7% | 2.53 | -1.0% |
| 3 | \$14,331-\$18,144 | \$16,228 | 12.0% | \$35,183-\$41,506 | \$38,311 | 10.6% | 2.36 | -1.5% |
| 4 | \$18,144-\$21,559 | \$19,921 | 14.0% | \$41,507-\$48,329 | \$44,878 | 14.4% | 2.25 | 0.3% |
| 5 | \$21,559-\$24,947 | \$23,240 | 16.8% | \$48,330-\$55,965 | \$52,039 | 17.4% | 2.24 | 0.6% |
| 6 | \$24,947-\$28,718 | \$26,777 | 19.4% | \$55,966-\$65,493 | \$60,574 | 20.1% | 2.26 | 0.7% |
| 7 | \$28,718-\$33,268 | \$30,905 | 21.4% | \$65,494-\$77,435 | \$71,230 | 22.3% | 2.30 | 0.9% |
| 8 | \$33,268-\$38,974 | \$36,019 | 23.1% | \$77,436-\$93,321 | \$84,629 | 24.5% | 2.35 | 1.4% |
| 9 | \$38,974-\$48,754 | \$43,169 | 25.8% | \$93,322-\$126,119 | \$107,051 | 27.5% | 2.48 | 1.7% |
| 10 | \$48,754 and above | \$76,180 | 30.7% | \$126,120 and above | \$229,511 | 35.9% | 3.01 | 5.2% |

Source: Australian Taxation Statistics.

A general trend revealed by the summary statistics in Table 1 – that growth in taxable incomes between 1994-95 and 2015-16 has been highest at the top of the income distribution (as revealed by a higher ratio of average taxable income in 2015-16 to 1994-95) – is not particularly surprising or new. The tax distribution serves to reinforce similar findings around the top of the income distribution included in the likes of Whiteford (2013) and the Productivity Commission (2018), based on the ABS Surveys of Income and Housing and Household Expenditure, as well as the Melbourne Institute Household Income and Labour Dynamics in Australia (HILDA) Survey. The broad directional trend presented here is also consistent with the quintile analysis of average tax rates between 2000-01 and 2015-16 presented by

the Parliamentary Budget Office (2017). More notable is that the second highest growth rate for taxable incomes is observed at the first decile.

The summary statistics for average taxable incomes, together with average tax rates, suggests three further general trends between 1994-95 and 2015-16. The first is that, notwithstanding strong growth in incomes for all deciles, the middle deciles saw the slowest relative growth in incomes and a small increase (between 0 and 1 percentage point) in average tax rates. The second is that the bottom three deciles experienced *reduced* average tax rates in 2015-16, despite stronger growth in average incomes than experienced by the middle deciles. The third is that the top three deciles experienced higher average taxes and the top decile experienced the strongest growth in average incomes.

These summary statistics also reveal three complications that reinforce the challenges of objectively assessing progressivity.

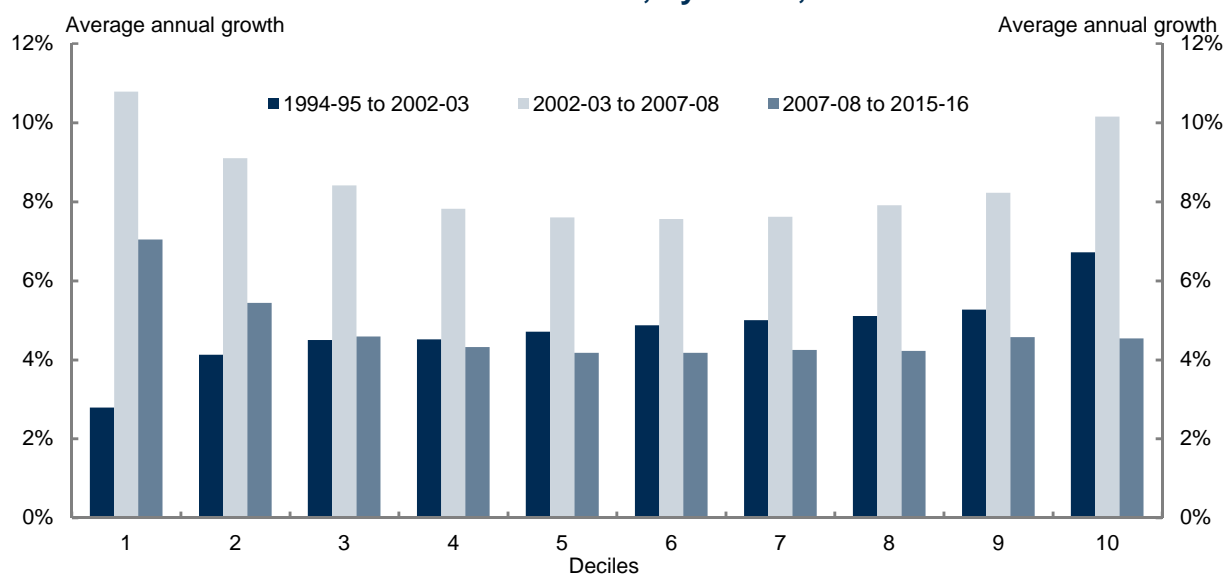
The first is that someone's position in the taxable income distribution, and who they compare to, could influence their view on changing incomes and tax incidence. For example, someone earning the median income in 2015-16 (50th percentile) could view those at both the bottom and the top of the income distribution as both having experienced stronger average income growth than their decile. This same individual could further observe that, while the tax incidence that applies to their decile has not moved greatly, those at the bottom end experienced lower average tax rates, while those at the top end experienced higher average tax rates.

The second is the interpretive challenges inherent in comparing two 'snapshot' static distributions that are 22 years apart. As the Productivity Commission (2018) correctly highlighted, Australians move across the income distribution (and therefore between the different deciles) over the course of their lives. Accordingly, it is important when comparing deciles between disparate time periods to not fall into the trap of assuming that the membership of each decile remains the same.

The third complication is the absence of a meaningful counterfactual – that is, comparing the changes in incomes and tax rates against a baseline prediction of what 'would have otherwise happened' to tax rates or incomes if, for example, tax brackets were to hypothetically grow at the same rate as incomes (or a similar metric). Partly this is because the exercise of constructing counterfactuals is driven by underlying assumptions, and the assumptions themselves (around hypothetical growth in incomes or average tax rates) are highly subjective. In this paper we don't speculate on the suitability of various potential counterfactuals, or attempt to isolate the marginal effects of 'policy decisions' and 'income growth' on the distribution of incomes and tax incidence. But we do note that in the absence of counterfactuals, the reduction in average tax rate for the bottom three deciles, despite strongly growing incomes, provides evidence that policy has resulted in reduced tax incidence for low income earners. Interpreting the impact of policy from summary statistics for the rest of the income tax paying population, where incomes and average tax rates have both increased, is less clear.

To better understand the drivers of taxable income growth, we further deconstruct the 22-year period into three different periods: 1994-95 to 2002-03; 2002-03 to 2007-08 (the mining boom period); and 2007-08 to 2015-16 (the global financial crisis and post-global financial crisis period) (Chart 6). There has been a stronger average annual taxable income growth in the top decile, relative to most deciles, across the three periods although this has moderated since 2007-08. There has also been a relatively fast taxable income growth experienced by the lowest decile in the lead up to, and during, the global financial crisis. Growth at the bottom deciles may partly reflect cumulative increases in the effective tax-free threshold between 2003-04 and 2012-13, which may have been greater than taxable income growth would otherwise have been (see Appendix for annual rates and thresholds between 1994-95 and 2015-16).

Chart 6. Growth in taxable incomes, by decile, 1994-95 to 2015-16.



Source: Australian Taxation Statistics, author calculations.

Overall, our analysis suggests that the combined effect of changes to marginal income tax rates and rising incomes between 1994-95 and 2015-16 has been:

- lower average tax rates for the bottom three deciles (1st to 3rd);
- approximately the same or small increases (between 0 and 1 percentage points) in average tax rates for the middle four deciles (4th to 7th); and
- higher (by more than one percentage point) average tax rates for the top three deciles (8th to 10th), and a significantly higher (5 percentage point) increase in the average tax rate for the top decile.

The higher average tax rates faced by top income earners, approximately the same or small increases in average tax rates faced by middle income earners, and lower average tax rates faced by lower income earners is suggestive of overall personal income tax progressivity having increased.

Tax concentration

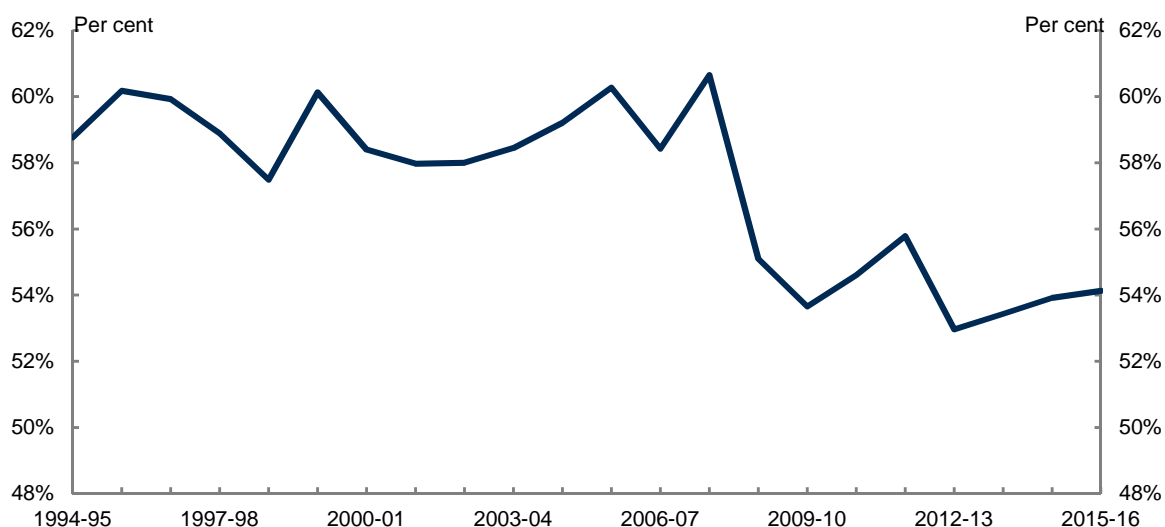
Some tax concentration metrics reinforce the idea of increased progressivity. The taxpayer base has narrowed between 1994-95 and 2015-16, with the share of personal income taxpayers in the population aged over 18 declining by almost 5 percentage points over this period (Chart 7). This most likely reflects a number of factors, including, for example:

- decisions to narrow the personal income tax base by excluding low-income earners from the need to file a tax return;¹⁷
- the global financial crisis, which saw a significant reduction in personal tax returns for some low-income categories from 2008-09 onwards; and

¹⁷ Of note, 320,000 fewer tax returns were lodged in the year after the tax free threshold was tripled on 1 July 2012.

- an ageing population and increasing prominence of tax-free retirement incomes following the introduction of the superannuation reforms of 2006-07.

Chart 7. Proportion of personal income taxpayers in the over-18 population, 1994-95 to 2015-16



Source: Australian Taxation Statistics, Australian Bureau of Statistics

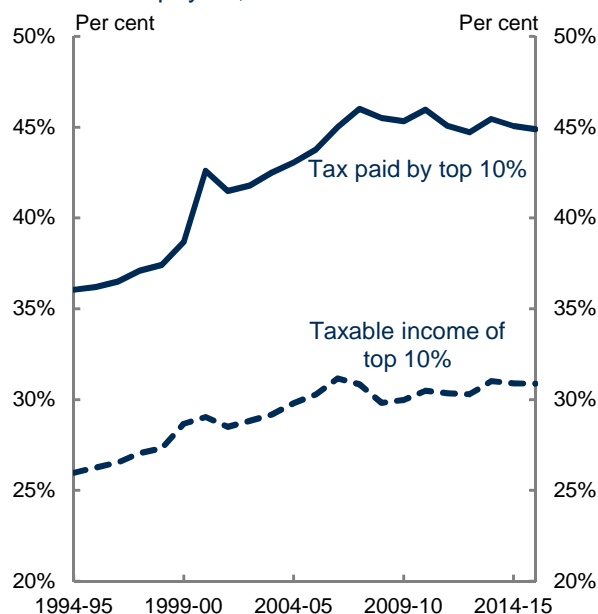
In addition to the overall falling share of personal income taxpayers, there appears to be an increasing concentration of the personal income tax incidence on those on higher taxable incomes, and reducing tax incidence on those in the bottom half of the income distribution (Chart 8a and 8b). In particular, the share of taxable income accruing to the top decile of taxpayers increased by 5 percentage points, while the share of revenue collected increased by 9 percentage points. The increasing tax concentration, beyond trends in taxable income growth, appears to be particularly influenced by the income tax compensation designed as part of the introduction of the GST, and the mining boom, with a subsequent share stabilisation since the global financial crisis.

The increasing concentration means that, in 2015-16, the top 5.4 per cent of the adult population (the 10 per cent of taxpayers or the approximately one million taxpayers earning more than approximately \$126,000) contributed 45 per cent of personal income tax revenues at an average tax rate of 36 per cent. By contrast, in 1994-95 the top 6 per cent of the adult population (the 10 per cent of taxpayers or approximately 800,000 taxpayers earning more than \$48,750) contributed approximately 36 per cent of total personal income tax receipts at an average tax rate closer to 31 per cent.

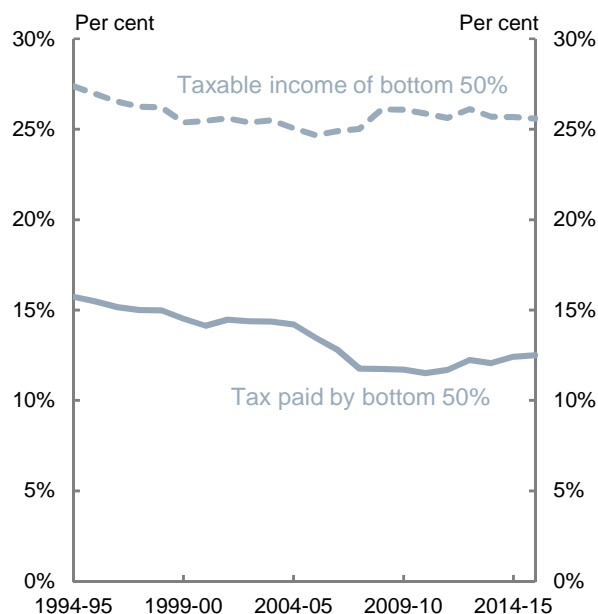
A greater revenue reliance on a small number of high-income earners, paying high average tax rates, imposes two pressures on Australia's personal income tax system. First, to the extent that those who face higher marginal personal income tax rates also face a larger tax rate differential between their marginal tax rate on personal income and the marginal tax rate on corporate, superannuation, and capital sources of income, this creates a greater incentive for taxpayers to seek out tax planning opportunities. Importantly, if an increase in tax planning is viewed as out of step with broader community perceptions of fairness, then there is a risk of declining community confidence in the tax system and therefore a greater incentive for more people to tax plan. This may raise broader tax morality issues. Second, the greater tax concentration on high-earning individuals suggests that fluctuations in the taxes paid by this group would have a greater bearing on aggregate Commonwealth revenue collections.

Chart 8a

Share of taxable income and personal income tax paid by top 10 per cent of personal income taxpayers, 1994-95 – 2015-16

**Chart 8B**

Share of taxable income and personal income tax paid by bottom 50 per cent of personal income taxpayers, 1994-95 – 2015-16



Source: Australian Taxation Statistics.

4. CONCLUDING OBSERVATIONS

This paper has explored what a progressive tax is, described the policy levers for delivering it, examined the nature and measurement of progressivity, and illustrated some trends around progressivity in the Australian personal income tax system.

The paper has highlighted a change in taxable incomes across the 22-year period. In an absolute sense, nominal taxable income growth has been strong across the taxpaying population since 1994-95. In a relative sense, the slowest growth rates have applied to incomes in the middle deciles of the income distribution, and fastest have applied to those at the bottom and top of the distribution.

While not an exact science, it also appears that Australia's personal income tax system has become more progressive since 1994-95. Successive Australian governments have collectively reduced marginal personal tax rates and increased personal tax thresholds, and, in doing so, have redistributed personal income tax incidence away from lower income earners and towards higher income earners. There has been a consequential increase in personal income tax concentration onto a narrower proportion of high income earners within the Australian population.

We have not evaluated the fairness (real or perceived) of these changes. Some may argue that the current system is delivering the 'right' level of fairness. Others may argue that the current system is 'unfair' for different groupings of the population, in particular ways.

Finally, in interpreting these developments, it is important to understand that personal income taxation can only tell so much of the overall Australian tax progressivity story. The interactions between the progressivity of income tax and: the tax treatment of capital, savings, and consumption; state taxation; and the transfer system have been beyond the scope of this analysis. However, these interactions, and their impact on the tax system, are important parts of the overall assessment and would therefore be valuable avenues for further work.

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APPENDIX

KEY PROGRESSIVITY EXCERPTS FROM MAJOR TAX REVIEWS

The goal of progressivity and the potential role for personal income tax in achieving it has been long featured in Australian tax research. The Asprey Review in 1975 highlighted the significant role that an income tax can play in creating a horizontally equitable system.

An almost limitless range of provisions for horizontal equity can be introduced into it [income tax]. Any degree of progressivity can be enacted. It is indeed the only tax currently in the tax system that is capable of raising large revenues and into the structure of which a refined set of progressive provisions can be incorporated.¹⁸

This review was, however, still wary of the possible negative implications that excessive doctoring of the personal income tax system in search of progressivity could have for the system's ability to achieve vertical and horizontal equity. The more features that are incorporated into an income tax system to instigate progressivity, the more susceptible that system becomes to tax minimisation strategies, increasing the general costs of tax administration and reducing the system's ability to provide horizontal and vertical equity.

Complexity is introduced when many allowances are believed to be called for by horizontal equity; and more when, with a highly progressive scale, measures have to be taken to prevent or control the transfer of incomes from persons in high tax ranges to those lower down.¹⁹

Debate about the best way to reform tax continued in the 1985 Draft White Paper on Reform of the Australian Tax System. It was noted here that a 'major problem with the existing scale is that of high marginal tax rates at relatively modest income levels, creating incentives to avoidance and evasion and disincentives to producing income'.²⁰ The progressive rates were again noted as influencing behaviour in such a way as to encourage tax avoidance and through this reduce the capacity of providing horizontal and vertical equity. The benefits of having a large tax-free threshold were also discussed, with it being generally viewed as an expensive way of assisting low income earners, due to the flow through effect extending to the entire population.

As a means of providing that low income earners do not bear tax, the tax-free threshold is a very expensive concession in terms of taxation revenue forgone since all taxpayers enjoy the threshold regardless of size of income.²¹

The Review of Australia's Future Tax System in 2008 furthered discussion on the possibility of making progressivity less distortionary for people's behaviours. This review acknowledged that a system of rising marginal rates is not the only way of achieving progressivity.

18 Asprey Taxation Review Committee, 'Full report', 31 January 1975, page 17

<http://adc.library.usyd.edu.au/view?docId=law/xml-main-texts/p00087.xml;database=:collection=:brand=ozfed;>

19 Ibid.

20 'Cabinet Memorandum 2875 – Draft White Paper on reform of the Australian tax system –Decision 5629' May 1985, page 166.

<https://recordsearch.naa.gov.au/SearchNRRetrieve/Interface/DetailsReports/ItemDetail.aspx?Barcode=31427390&isAv=N>

21 Ibid, page 167.

Progressivity can be achieved either through a flat tax rate with a tax-free threshold, a rising personal income tax rates scale, or a combination of both. Progressivity does not necessarily require increasing effective marginal tax rates.²²

The AFTS Review argued that a flat rate would be more effective, due to being more transparent.

The personal income tax system should continue to be progressive, but it should operate in a simpler and more transparent way. The centrepiece of the system should be a high tax-free threshold with a constant marginal rate for most people.²³

It also argues against excessively high taxes being levied against those in the top brackets.

The redistributive goals of progressive taxation need to be weighed against the effects that progressive taxes have on incentives to invest in education, training and skills and to engage in entrepreneurial activity. Even with strong preferences for redistribution, steeply rising marginal rates at the top of the income distribution will be counter-productive — it only makes sense to tax people to the extent that they are still willing to work or engage in entrepreneurial activity.²⁴

Although the review advocated against the excessive use of structural offsets, arguing that it would be more transparent to incorporate such changes into marginal rates, it did acknowledge that such offsets have ‘the advantage of allowing governments to target taxes and transfers with much greater precision than would be possible if it simply reduced tax liabilities’.²⁵

The recent 2015 Re:Think Tax White Paper emphasised the necessity of having a progressive tax system in ensuring continued faith in the fairness of the Australian tax system. Although it did not outline a specific marginal tax rate structure, it did state that the ‘potential benefits from income splitting arise from the progressivity and effective tax-free thresholds in the individuals income tax system’.²⁶

22 Henry Review Panel, ‘Australia’s future tax system’, http://taxreview.treasury.gov.au/content/FinalReport.aspx?doc=html/Publications/Papers/Final_Report_Part_2/chapter_a1.htm

23 Henry Review Panel, ‘Australia’s future tax system’ http://taxreview.treasury.gov.au/content/FinalReport.aspx?doc=html/Publications/Papers/Final_Report_Part_2/Chapter_a1-1.htm

24 Ibid.

25 Ibid.

26 ‘Re:Think, Tax discussion paper’ page 51 http://bettertax.gov.au/files/2015/03/TWP_combined-online.pdf

AUSTRALIAN INCOME TAX RATES AND THRESHOLDS OVER TIME

| 1994-95 | |
|----------------|---------|
| Threshold (\$) | Rate |
| 1-5,400 | 0% |
| 5,401-20,700 | 20% |
| 20,701-38,000 | 34% |
| 38,001-50,000 | 43% |
| >50,000 | 47% |
| LITO | \$150 |
| Effective TFT | \$6,150 |
| ML | 1.4% |

| 1995-96 | |
|----------------|---------|
| Threshold (\$) | Rate |
| 1-5,400 | 0% |
| 5,401-20,700 | 20% |
| 20,701-38,000 | 34% |
| 38,001-50,000 | 43% |
| >50,000 | 47% |
| LITO | \$150 |
| Effective TFT | \$6,150 |
| ML | 1.5% |

| 1996-97 | |
|----------------|---------|
| Threshold (\$) | Rate |
| 1-5,400 | 0% |
| 5,401-20,700 | 20% |
| 20,701-38,000 | 34% |
| 38,001-50,000 | 43% |
| >50,000 | 47% |
| LITO | \$150 |
| Effective TFT | \$6,150 |
| ML | 1.7% |

| 1997-98 | |
|----------------|---------|
| Threshold (\$) | Rate |
| 1-5,400 | 0% |
| 5,401-20,700 | 20% |
| 20,701-38,000 | 34% |
| 38,001-50,000 | 43% |
| >50,000 | 47% |
| LITO | \$150 |
| Effective TFT | \$6,150 |
| ML | 1.5% |

| 1998-99 | |
|----------------|---------|
| Threshold (\$) | Rate |
| 1-5,400 | 0% |
| 5,401-20,700 | 20% |
| 20,701-38,000 | 34% |
| 38,001-50,000 | 43% |
| >50,000 | 47% |
| LITO | \$150 |
| Effective TFT | \$6,150 |
| ML | 1.5% |

| 1999-00 | |
|----------------|---------|
| Threshold (\$) | Rate |
| 1-5,400 | 0% |
| 5,401-20,700 | 20% |
| 20,701-38,000 | 34% |
| 38,001-50,000 | 43% |
| >50,000 | 47% |
| LITO | \$150 |
| Effective TFT | \$6,150 |
| ML | 1.5% |

| 2000-01 | |
|----------------|---------|
| Threshold (\$) | Rate |
| 0-6,000 | 0% |
| 6,001-20,000 | 17% |
| 20,001-50,000 | 30% |
| 50,001-60,000 | 42% |
| >60,000 | 47% |
| LITO | \$150 |
| Effective TFT | \$6,882 |
| ML | 1.5% |

| 2001-02 | |
|----------------|---------|
| Threshold (\$) | Rate |
| 0-6,000 | 0% |
| 6,001-20,000 | 17% |
| 20,001-50,000 | 30% |
| 50,001-60,000 | 42% |
| >60,000 | 47% |
| LITO | \$150 |
| Effective TFT | \$6,882 |
| ML | 1.5% |

| 2002-03 | |
|----------------|---------|
| Threshold (\$) | Rate |
| 0-6,000 | 0% |
| 6,001-20,000 | 17% |
| 20,001-50,000 | 30% |
| 50,001-60,000 | 42% |
| >60,000 | 47% |
| LITO | \$150 |
| Effective TFT | \$6,882 |
| ML | 1.5% |

| 2003-04 | |
|----------------|---------|
| Threshold (\$) | Rate |
| 0-6,000 | 0% |
| 6,001-21,600 | 17% |
| 21,601-52,000 | 30% |
| 52,001-62,500 | 42% |
| >62,500 | 47% |
| LITO | \$235 |
| Effective TFT | \$7,382 |
| ML | 1.5% |

| 2004-05 | |
|----------------|---------|
| Threshold (\$) | Rate |
| 0-6,000 | 0% |
| 6,001-21,600 | 17% |
| 21,601-58,000 | 30% |
| 58,001-70,000 | 42% |
| >70,000 | 47% |
| LITO | \$235 |
| Effective TFT | \$7,382 |
| ML | 1.5% |

| 2005-06 | |
|----------------|---------|
| Threshold (\$) | Rate |
| 0-6,000 | 0% |
| 6,001-21,600 | 15% |
| 21,601-63,000 | 30% |
| 63,001-95,000 | 42% |
| >95,000 | 47% |
| LITO | \$235 |
| Effective TFT | \$7,567 |
| ML | 1.5% |

| 2006-07 | |
|----------------|----------|
| Threshold (\$) | Rate |
| 0-6,000 | 0% |
| 6,001-25,000 | 15% |
| 25,001-75,000 | 30% |
| 75,001-150,000 | 40% |
| >150,000 | 45% |
| LITO | \$600 |
| Effective TFT | \$10,000 |
| ML | 1.5% |

| 2007-08 | |
|----------------|----------|
| Threshold (\$) | Rate |
| 0-6,000 | 0% |
| 6,001-30,000 | 15% |
| 30,001-75,000 | 30% |
| 75,001-150,000 | 40% |
| >150,000 | 45% |
| LITO | \$750 |
| Effective TFT | \$11,000 |
| ML | 1.5% |

| 2008-09 | |
|----------------|----------|
| Threshold (\$) | Rate |
| 0-6,000 | 0% |
| 6,001-34,000 | 15% |
| 34,001-80,000 | 30% |
| 80,001-180,000 | 40% |
| >180,000 | 45% |
| LITO | \$1,200 |
| Effective TFT | \$14,000 |
| ML | 1.5% |

| 2009-10 | |
|----------------|----------|
| Threshold (\$) | Rate |
| 0-6,000 | 0% |
| 6,001-35,000 | 15% |
| 35,001-80,000 | 30% |
| 80,001-180,000 | 38% |
| >180,000 | 45% |
| LITO | \$1,350 |
| Effective TFT | \$15,000 |
| ML | 1.5% |

| 2010-11 | |
|----------------|----------|
| Threshold (\$) | Rate |
| 0-6,000 | 0% |
| 6,001-37,000 | 15% |
| 37,001-80,000 | 30% |
| 80,001-180,000 | 37% |
| >180,000 | 45% |
| LITO | \$1,500 |
| Effective TFT | \$16,000 |
| ML | 1.5% |

| 2011-12 | |
|--------------------|----------|
| Threshold (\$) | Rate |
| 0-6,000 | 0% |
| 6,001-37,000 | 15% |
| 37,001-80,000 | 30% |
| 80,001-180,000 | 37% |
| >180,000 | 45% |
| LITO | \$1,500 |
| Effective TFT | \$16,000 |
| ML | 1.5% |
| Flood levy>50,000 | 0.5% |
| Flood levy>100,000 | 1.0% |

| 2012-13 | |
|----------------|----------|
| Threshold (\$) | Rate |
| 0-18,200 | 0% |
| 18,201-37,000 | 19% |
| 37,001-80,000 | 32.5% |
| 80,001-180,000 | 37% |
| >180,000 | 45% |
| LITO | \$445 |
| Effective TFT | \$20,542 |
| ML | 1.5% |

| 2013-14 | |
|----------------|----------|
| Threshold (\$) | Rate |
| 0-18,200 | 0% |
| 18,201-37,000 | 19% |
| 37,001-80,000 | 32.5% |
| 80,001-180,000 | 37% |
| >180,000 | 45% |
| LITO | \$445 |
| Effective TFT | \$20,542 |
| ML | 1.5% |

| 2014-15 | |
|----------------|----------|
| Threshold (\$) | Rate |
| 0-18,200 | 0% |
| 18,201-37,000 | 19% |
| 37,001-80,000 | 32.5% |
| 80,001-180,000 | 37% |
| >180,000 | 45% |
| LITO | \$445 |
| Effective TFT | \$20,542 |
| ML | 2.0% |
| TBRL >180,000 | 2.0% |

| 2015-16 | |
|----------------|----------|
| Threshold (\$) | Rate |
| 0-18,200 | 0% |
| 18,201-37,000 | 19% |
| 37,001-80,000 | 32.5% |
| 80,001-180,000 | 37% |
| >180,000 | 45% |
| LITO | \$445 |
| Effective TFT | \$20,542 |
| ML | 2.0% |
| TBRL >180,000 | 2.0% |